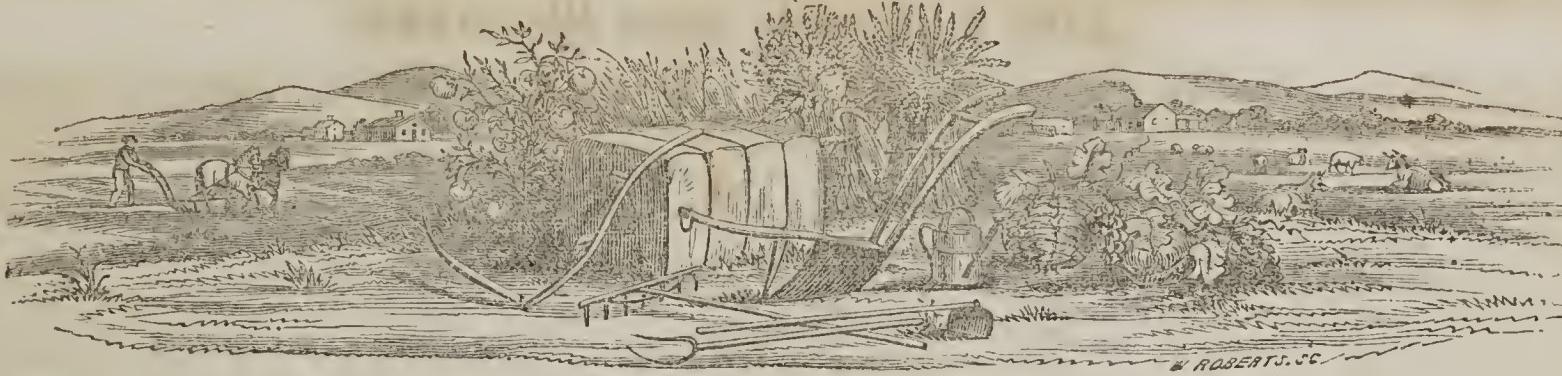


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.





W. ROBERTS, SC.

FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

VOL. II.

PENDLETON, S. C., JUNE, 1851.

No. 5.

The Farmer and Planter

*Is published monthly at Pendleton, S. C.,
BY GEO. SEABORN & J. J. GILMAN,
Editors and Proprietors.*

TERMS.

1 copy, one year (*invariably in advance*) \$1
6 copies one year, (directed to one office,) 5
25 copies, " " " " 20
100 copies, " " " " 75

All letters, except communications for the Farmer and Planter, must be POST PAID to insure attention.

Advertising and Job work done on reasonable terms.

Pencillings by a Planter---No. 3.

[CONCLUDED:]

RURAL occupations rightly pursued, gives to its votaries every opportunity for the study of the constitution of nature—the heavens above him, with its brilliant canopy of light, and ever changeful arrangement of its air currents and clouds, thunder storms, hail, snow and rain, present to him teachings in philosophy and meteorology, that books alone are inadequate to furnish with distinctness to the mind. The rich carpet of nature under his feet, teeming with prolific life in millions of varied forms, ever prompting to investigation of their modes of existence. Seeds germinate and grow—animals are reproduced from the embryotic speck, to the full grown animal. What themes are here presented to cheer the ruralist at his daily toil—variety sufficient for every mind, and enough to gratify every taste. And we say that the planters of South Carolina have, in an eminent degree, opportunities for improvements over those of more northern climes, and different institutions, and where they fail to take advantage, they prove themselves unworthy of their position. For the most part they are freed from laboring with their

own hands; they have ample time to study, and put in practice all the improvements of rural science—in a word, they should be the leaders in every improvement connected with rural economy, and this not being the case, there is a wrong in our present system that calls loudly for reform.

There is another subject to which I would call the enlightened attention of your readers. In other countries the industrial energies of the inhabitants are in part occupied in the cultivation of forest trees. In our State these bounties of providence are spread out in profusion, and our abuses have been as extravagant as the blessing was profuse. The waste is none the less excusable, and the penalty is now being realized in many parts of the State. This destruction is based in a great measure upon the barbarous land destroying system; islands had been kept up to their primitive fertility all, or the same amount, that is now in worn-out old fields, would have been in virgin forest. Timber in this country is just as important to man as the bread he eats. We have no coal fields imbedded in the bowels of the earth from which we can draw a supply of fuel to cook our dinner, or to warm us when the cold chills us. It takes years for the oak to grow, and but a few minutes for it to fall before the woodman's axe; and now when the genius of our race have achieved such rapid and cheap transportation on railroads, we shall feel the effects of this thriftless extravagance in the sparseness of marketable timbers. The grand secret of thrift is not only to produce, but to keep and improve, and we do aver, that in this matter we are spendthrifts to an incalculable amount. Nature takes care of the forest, it requires no culture from

the hands of man. It is, then, time for investigation, and should call up the enlightened attention of every agriculturist of Carolina, to husband this inestimable blessing.

We have assumed that the soil can be cultivated to yield good and remunerating crops, and its capacity for production constantly increased. The land must of necessity be put in a condition, by conduits, to carry off, without washing away, the whole of the surplus surface water. It is not our intention to go into the method of cultivation of either corn or cotton, but closely to confine our remarks to the improvement of the soil under the operation of tillage and crop raising. Whatever is the maximum number of bushels of corn raised on one acre of ground in our State, we may assume as the known limit of capacity, aided by fertilizers; by these experiments we may conclude that eighty bushels of corn can be raised per acre, if the plants are properly fed. Eighty bushels per acre we are aware is not the extreme limit which has been reached, but it is enough for our purpose, and we hold it as attainable, under a system of judicious and sensible husbandry, on every farm in the middle and up country in our State, if steadily persevered in, and without much aid from abroad. Lime is the only foreign aid which we positively need, all else can be supplied from our own resources. We have the experience of Flanders to cheer us on to the work.—Under our system of planting, all the corn-cobs, leaves and stalks, produced on the farm are consumed on it. Hence it is, the organic elements of corn are constantly increasing, if not suffered to wash away. Animals that consume corn and fodder, or indeed any other food, yield forty per cent. of dry excrement

from the food eaten, the other sixty per cent. passes off into the atmosphere, a small portion by sensible and insensible perspiration, and the larger portion by expiration from the lungs; but not one atom of this is lost, or even carried far from its origin; it comes down in the dews of night, and the showers of the day. Thus nature has established a regular balancing and compensating principle, independant of man's agency.

To husband the precious atoms of the urine, calls for our care, and he who saves the most in his operations of manure making, reaps the greatest benefit from his labor. The smile of incredulity will, we doubt not, wrinkle many an honest face, at the idea of saving the urine of the cow-pen and stables, but we tell you truthfully, it is the elements of meat and bread, and all that is suffered to wash down the streams is so much lost to the soil that produced it, and is so much of human toil and labor thrown away.

To give form to our views, of increasing the capacity of lands for production, under a continued course of cultivation in either corn or cotton. We will begin the plan proposed by our views, by taking a field of very poor land, which, with ordinary cultivation, without the aid of fertilizers, will produce but five bushels of corn per acre. We will suppose the soil to be two inches deep; our first operation would be to break it up four inches, not by turning it up-side down, but with the bull-tongue followed by a subsoil or colter plow. This will facilitate the operations of nature in preparing the organic elements, on which alone plants live. As the matter of soils which are neither animal or vegetable, are mineral, and are called inorganic, and in the language of science air, water and gases, are included. We hold as a principle, the deeper the plow penetrates the subsoil, the more readily will it be acted on by the atmosphere, light and heat. Frosts will penetrate deeper, gaseous bodies that float in the atmosphere, when brought down by rain, dew and snow, will be more readily absorbed by the well opened subsoil, than when it is hard and unbroken. The tiller of the ground should ever bear in mind that the origin of soils is from rocks—the geologist has established this beyond gainsay—soils are the result of broken down or disintegrated rocks. Soils at first nothing more than the mineral atoms of once solid rocks. Granite contains the inorganic elements in a greater degree of a good corn soil, and it is pleas-

ing to reflect, that an atom of potash once let loose from the feldspar of the granite, is never annihilated, but may for all future time continue to aid other elements to form organic matter, which constitutes vegetable being.

In nature there is a system of growing plants producing food for other plants which follow, and this system extends into the operations of agriculture. Crops produce the elements of re-production, and every principle of rural economy should have a tendency to retain every atom possible in the service of growing plants. To carry out of the field every part of a crop, and carry nothing back, is a sure and not very slow way of reaching certain sterility.

We come now to the time when the crop of corn of five bushels per acre has been gathered; the field must be then closed, no cattle or any animal should be suffered to tread the land, then, so soon in the winter as it can be done, the stalks should be cut down and cut to pieces by the hoe. A scooter plow should then open the furrows at proper distance for corn; this should be followed by a sub-soil, and these two by a shovel plow—this last mixes a portion of the subsoil. The stalks, grass, weeds, &c., are then to be laid in the furrows thus made, and covered with a small turning plow. The land is planted in corn and peas. When the pease are ripe they are picked and no hogs or cattle allowed to go on the field. If the season has been ordinary, the crop will be twenty per cent. better than when last planted. The stables and horse-lot must now be put in active operation. Charcoal must be put on the floors of the stables at least four inches thick, and well littered with oak leaves or pine straw; when well broken up and saturated with urine, and the droppings from the mules and horses, it should be taken out and put in the composting pens, with a little lime and salt sprinkled through it as it is put in, it must then be covered up with a coat of coal dust, and let remain till wanted for use; the same process is repeated through the winter—the latter part of February is the time to get it out on the land, the stalks, peavines, weeds, &c., have to be put in as before directed, and as early as possible in the fall or winter. The last of February, the ridges should be opened and the manure put in, which should be covered with two furrows—it would then be better to bed the land out and out before plaiting.—By the middle of March the beds may be opened and the corn planted. Now we wish to be understood that we claim the manure alone that is made from the animals that consume the corn, &c., made on the field. If this is done, and fair seasons, we can safely say the yield will be ten bushels per acre, or an increase of one hundred per cent. Now this being the case, we have doubled the quantity of organic matter for the next year's operation, and if this system is persevered in ten years the soil may be brought to produce twenty to thirty bushels of corn per acre, under a constant tillage and corn crop raising. Try it.

Rotation of crops where nothing is returned in the way of manures, is an excellent way to rob the soil of every element, and just as good away to produce a total sterility as if the soil had been carted off; the only difference is, rotation without manure is a little slower.

Whatever of elementary matter we market off, is lost to us and the soil, and our business is, as thrifty and intelligent farmers, to keep up and improve the capacity for production. This can be done, but it requires thought and action, both harmoniously working in steady harness; toil and labor are the price of earthly blessings, every thing that is valuable requires our care and labor to attain, but happiness and plenty attend the actively diligent and well doing tiller of the soil. Nature yields her treasures lavishly to those who seek her favors. Mother earth is generous to all who treat her with attention and study her wants.

J. P. B.

IMPROVEMENTS IN AGRICULTURE.

MESSRS. EDITORS:—As a general rule it will be admitted that no man should write for the paper, unless he has something to write about. As an occasional contributor to the Farmer & Planter, it is time I should appear again in your columns; but in doing so, I really feel that I am in danger of violating the above wholesome rule. I have been much engaged in preparing to plant and in planting my crop. Owing to the many heavy rains that have fallen, and the generally cool spring, I have not succeeded so fully as I wished. So far wheat and oats look very well—corn has come up very well but does not make a bold start—cotton is crusted in and is coming up very slowly. I have made the above statement simply that it may go on record for future reference. But as I have commenced writing of matters and things about home, I may as well go on and inform your readers what progress we are making hereabouts. I do this with a feeling of some pride. We are beginning to have the courage to break through the restraints of old custom. Many of our young farmers have the hardihood to think for themselves. “The way my father always did,” or, “the way I always seen it done,” has ceased to be a sufficient reason. Enquiry has gone boldly forth, and in many instances decided improvement is manifested. It has even got to be believed by many, that one farmer may write his experience and make his suggestions, to be printed, and another farmer read it and be benefited. In a word, book-farming is not so much derided as formerly. Not a few of our farmers read your paper, and believe themselves the wiser for it.

Formerly, our course was as fixed as the laws of the Medes and Persians. If a farmer went into the woods to clear himself a field, it must be square, or an oblong square. The rows must run parallel along the course of the fence, and be crossed exactly at right angles, and must be perfectly straight—nothing injured a young farmer's reputation more than to lay off a crooked row. In this primitive era no manure was used, except in a few instances, that from the stable, and it was doubted whether that did more good than harm, as it was accused of often burning up the crop. Cotton seed lay in huge piles, polluting the air. Such is not now the condition of things here—a marked difference has come over the face of the country. Guard ditches are becoming very common on our hill sides—our swamps are being drained almost every where—rows are laid off with some regard to the horizontal. But it is chiefly in increased attention to manures, and even to some extent, to a judicious rotation of crops, that improvement is most evident. Our farmers are beginning to understand that vegetables must have nourishment as well as animals, and many of them now manure from three to five acres to the hand, and this is but a beginning. Revolutions it is said never go backward, and I firmly believe our march is onward.

Before I close I must say, that the Farmer and Planter improves. The first three numbers of the second volume, are a decided improvement upon the first volume, and the last number the best of all. I think you may now fairly claim an equal standing with any other agricultural periodical. Your remarks under the head of "April," are excellent.—"Broomsedge," in his article on humbugs, says "This thing is certain—cotton cannot be grown out of a soil not rich in the ingredients necessary to perfect the plant." I have quoted this because such a sentence will bear repetition. It is full of meaning—of sound sense—of truth. No plant can be grown in a soil that does not contain the ingredients, the food, necessary to its growth to perfection. It is just as easy to find a breed of hogs that will thrive when the crib is empty—a breed of cattle that will sustain themselves without pasturage, as a plant that will flourish in a soil that does not contain the food on which it lives. It might seem poorly worth while to tell over and over again, what is so plain, and what every one knows; but it is a seri-

ous (ludicrous) fact, that thousands of farmers in South Carolina at this day are engaged in trying to grow plants on soils that do not contain the materials, or food, on which alone they can thrive. When we know this, how can we wonder at the simplicity of the philosopher who Capt. Gulliver found trying to extract sunbeams from cucumbers. The whole article on Humbugs is excellent and worth studying.

LAURENS.

From the Southern Agriculturist.
Soap Suds.

The value of this article, as a stimulant of vegetable life, appears not to be generally and fully appreciated by our farmers, as their intelligence and well known habits of enterprise and economy would lead us to expect.

But few, comparatively speaking, appear to be sensible of the almost inestimable advantages which a careful preservation of this invaluable liquid and its application to the purposes of vegetable nutriment, would enable them to secure. It has been estimated by judicious and enlightened farmers, that a hogshead of suds is equal, in point of value, to a cord of the best manure; and I am certain that no one who has witnessed the beneficial effects consequent upon its application, will deny that it is *bad policy* and no mark of a judicious and discriminating farmer to suffer it to be thrown away.

In a state of incipient putridity, it is replete with the aliment of vegetables in a state of actual and perfect solution.—The only condition, indeed, so far as our knowledge extends, in which it is susceptible of being appropriated and absorbed by plants. Besides its important value in this respect, it is also possessed of the most powerful and efficacious antihelminthic properties; and when used in the irrigation of fields and gardens infested with worms, is found to be a speedy and effectual remedy against their ravages as well as those of most of the alligerous predators by which the plants, vines, &c. of the latter, although protected with the utmost care and vigilance of the husbandman, are so frequently blasted and destroyed.

There is also another important use to which this liquid may be profitably applied. I refer to the formation of *compost manures*, which every one who is at all familiar with the present condition of our husbandry, will readily admit to be one of the most decidedly important operations in which it is possible for our farmers to engage.

By a little attention to this subject, on the part of our farmers, the annual produce of our country might be greatly increased, and the productive powers of many of our farms, which are now deemed almost worthless, be so far resuscitated as to place them on an equal footing, in this important respect, with the most productive farms of the south-west. Nature has every where supplied us with the most ample means of accomplishing

this end, and we have only to improve them to reap a rich and plentiful reward.

EXPERIMENTALIST.

To make Tomato Figs.

TAKE six pounds of sugar to one peck (or 16 lbs.) of the fruit. Scald and remove the skin of the fruit in the usual way. Cook them over a fire until the sugar penetrates and they are clarified. They are then taken out, spread on dishes, flattened and dried in the sun. A small quantity of the syrup should be occasionally sprinkled over them whilst drying; after which, pack them down in boxes, treating each layer with powdered sugar. The syrup is afterwards concentrated and bottled for use. They keep well from year to year, and retain surprisingly their flavor, which is nearly that of the best quality of fresh figs.—The pear-shaped or single tomatoes answer the purpose best. Ordinary brown sugar may be used, a large portion of which is retained in the syrup.—American Farmer.

From the "Soil of the South."

Looking for a Better Country.

In our early school-day reminiscences, we recollect an energetic, sterling little fellow, who was always conspicuous in the Saturday fishing frolics, ever on the ground in good time, and ready to start with the first. But his patience and anxiety did not allow him to try long, before he was off in search of a better place; soon he was out of sight, toiling and hoping on, all the time expecting to get to the best place, where he would outstrip his companions, and realize his largest hopes. The day's operations closed, our little restless fellow would come up, wearied and muddied and well scratched, and with less success than his companions who had staid behind. This was the man in embryo; the boy was a true type of the man in after years. The first thing he did, when ready to enter upon the business of life, was to show himself a man of too much shrewdness and energy to settle down in the old country. Accordingly he moved to a new one, and conceived that he had been so remarkably fortunate as to have found the very thing for which he was looking, all just right. His friends behind were sorely ridiculed for their want of enterprise, to be throwing away their time in the old country, "the best plantation in which, he would not have, if compelled to live on it." A few years after this, however, he learns that the perfections have not all been concentrated yet, but that they are to be found *a little further on*; and thus he has been running after phantoms, until he is now getting to be old, soured and poor: living on, perhaps, the worst piece of land that he ever owned; but thinks, yet, if his wife had been right willing to have seconded all his notions, he should have found that *best place*, some where in the West, or a little the other side. He has never built himself a good house, planted orchards, improved his land, or any thing else, just because he was not settled. This is a

hasty sketch from real life, but does not describe an isolated case; you all probably know some man that it will suit.—(We do, several near and dear relatives; “a rolling stone eateth no moss.”—*Eds. F and P.*) In its general outlines, it exhibits the true Southern character. We have been very much of a go-ahead people, but our energies have been more taxed in searching for imaginary good than in converting the means already in hand, into blessings. It is a truth hardly conceded, that there is not much difference naturally between countries, all having their advantages and disadvantages.—Many men spend their days, in restless anxiety, searching for a complete combination of all, a good never to be realized, and do not learn, until too late, that they have been running after a mere chimera of their own brain, all their life long.

We complain not of the energy or enterprise prompting to such efforts, for there has been much in our country to induce them, and thousands, we know, have bettered their fortunes by going to a new country. But we would rebuke that spirit which is ever working in its dissatisfaction with means already in hand, blinding our eyes to the good at command, and deluding our hopes, in the anticipation of a perfection nowhere to earth to be found. Countries differ, we will admit, but much less than we usually imagine. And then the chief good, which we seek in a new country, is pecuniary, one purely of dollars and cents, which is often a poor exchange for the moral and social privileges sacrificed.—Is it a small thing to sever old friendships and associations—to cast your lot among strangers, who sympathise not with nor care for you—to leave your churches and your schools, and old home comforts all behind? And even with the best success, there is often more put down for the benefits of a move, than is properly due. The most energetic men have generally been those who have emigrated, and though they may have succeeded, is it not quite probable that the same men would have been successful, if they had kept the old homestead?—Compare notes with some of the best of those left behind; we say the best, because that is the only fair comparison.—How stands the difference? Very often in favor of the old country. But it is said, that after a few years of rough and perplexing inconveniences, the new country has the advantage of the old, in moral and social privileges. This may be, and often is true, but nothing is easier of explanation. We have remarked, before, that it generally has been the men of energy and enterprise who have rushed to the occupancy of the new lands; that energy can not be restrained; it will not only subdue the forests, but it will soon also build churches, school houses, and all those nurseries and appendages to good society, but this only proves how much might have been accomplished, if all those good men had remained, and exerted this same effort in the old country, where society has grown poor, and its institutions have gone down, just because

its pillars had been removed, and so much of its saving leaven had been extracted. These reflections come too late to cure the past, but they may serve to reconcile us to our present lot, and make us feel that we are not ruined, because we have no more new country upon our border.

Review of the April Number.

“Pencillings by a Planter.”—A somewhat fanciful title, truly, for a communication, by “a farmer who leaves a warm blanket two hours before day, on a siberian morning, to write for a public journal,”—verily he must be more sorely smitten by the caecotches seribendi mania, than even Broomsedge. But he has given us an agreeable “melange” and we hope it may not be the last. We assure him that Broomsedge don’t profess to “know every thing,” still he has never heard perfectly satisfactory reason assigned versus wheat turning to cheat.—Wiser heads than his have believed it did, and we are not willing to embrace every notion because it’s the fashion. Plants will doubtless degenerate under particular circumstances. “There are many things in the heavens and on the earth, Horatio, that have never been dreamed of in your Philosophy.” And J. P. B. believes the difference between the burning and the rotting of vegetable matter, is about equal to the difference between tweedldum and tweedledee. Really this gentleman’s practice seems to run counter to his precepts. Why does he consume so much time and labor unnecessarily, in making those compost heaps, if the ashes would do as well? “Four hundred cart loads of oak leaves” would have taken up very little space, if burned to ashes, and if thus applied, we take it, that our friend would have found it necessary to get a little lower than “on all fours,” and put on a more magnifying pair of spectacles, to discover the benefits of his homoeopathic doses. We hope to hear from J. P. B. in due season, the result of the many interesting experiments he has on hand. This is the only way to arrive at truth—by experiment carefully, practically and honestly conducted,—and honestly reported too—for it is matter of fact, that you will often find planters absolutely eliciting themselves wilfully, to sustain some particular hobby.

In every experiment the geological formation should be stated particularly—the kind of manure used, (out of what made)—the crop preceding, taken from the land—the mode of cultivation, and the results. Nothing has operated more serious-

ly against the diffusion of light amongst the agricultural class, or tended more to bring book farming into disrepute, than improperly conducted experiments, heralded by the greedy press to the world, as grand discoveries. The most economical mode of manuring with cotton seed, is to sow them broad-east and plow them in, in winter. Wheat bran is worth for feeding purposes 12½ cents per bushel—50 bushels per acre for manure, equal to \$6.25—is it a good investment? The potato (Irish) contains 51 per cent. of potash—11 per cent. phosphoric acid: ergo, ashes which are rich in phosphates and potash, is the best manure, added to the hogs’ hair it surely would be superior.

“Meteorological Observations”—A subject of more importance to the farmer than by many dreamed of. We should like to see something of a practical nature—something bearing upon the question in a useful point of view.

“The Mangold Wurtzel.”—We have seen remarkably fine roots, weighing 10 to 12 pounds, grown in Buncombe—they might be profitably cultivated in the rich moist valleys of the mountain region of this State. We have found all root cultivation, save the sweet potato (beyond garden limits) a precarious business. It is certain that as long as cotton is the great staple roots, in a cotton growing country, will receive little attention.

“Manuring Lands.”—Nos. 4 and 5, from that sensible writer Franklin, cannot be read too often nor practised too much.

“Mode of Handling Cotton.”—Until our cotton buyers become better judges of the article, and begin to make discriminations between a clean and a dirty article, there is little to encourage a planter for pains. We know some planters who pick up every thing, and say, the more mud and dirt the better, for it makes no difference in the sale. It is literally true, we have sold cotton in Columbia without a rope broken or a stich amiss, that never had been exposed an hour after it was packed, at the same time and at no higher price than a neighbor sold at, whose cotton had been piled out of doors, exposed to all sorts of weather for months, and then had not a bag two-thirds covered with bagging.

“Turning in Green Crops.”—It seems there are some people elsewhere beginning to wake up on this subject. What wonders might be worked by the use of the pea in this way. Vegetable matter, and deep plowing to bring into action the salts in the subsoil, is what we need, and

what every body can do. When we do that well, we may begin to talk about lime, guano, poudrette, plaster and bone-dust. We have not touched the first principles of farming yet; let us begin at the beginning, and do the little we do well. There is great danger always in setting your pegs too high, one is apt to pitch clear over, or fall far short of the mark.

"Report of the Committee on Wheat."—If "rust is occasioned by a peculiar state of the atmosphere," why does it affect one part of a field and not another? and why is it peculiar to particular soils? This is one of the mysteries of vegetation yet unravelled. It is unfortunate that individuals often, to sustain some favorite theory, commit great inconsistencies.—We take it that the clean culture system, so warmly eulogized by the Committee, would be illly suited to the southern country. It strikes me that what would be adapted to the humid climate of an island, where the sun shines not above one day in three, would surely be out of place here. Now it seems strange, that the committee, after recommending clean culture, should complain that the country had been already ruined by the clean culture required by cotton—and yet more strange, that they should recommend the cow pea as a fallow crop, and in the next breath recommend a premium for "Pea hay." There can be no doubt about the pea being an ameliorator. It is the clover of the South, and can be used efficiently in many ways, if the will were as good as the word.

"Experiments on the farm of Hon. R. Johnson."—What will Mr. Practical man say to this?—it's a tough case.

"Yellow Clover."—We sowed some of the seed, but as they never came up, we can't say anything about it.

"*Mixed Husbandry.*"—We have broken a lance with the Dr. before, and care not to renew the discussion, but if oats exhaust land as much as corn, it's enough. Oats sown on land, plowed six inches deep, and fed off to hogs, must do good—at all events, we are following in the Dr.'s footsteps on that subject as near as we well can. This is a very sensible article of his.

"Corn for Fodder."—There is no doubt immense crops can be made by it, but it requires very rich soil, and great care at a time when the cotton planter never will give it—the greatest difficulty is in curing it. It has been written about and lauded a great deal, and still it is very little practised—a rather unfavorable sign.

"Osage Orange."—As Broomsedge has paid out some five dollars for seed, which never sprouted, and set out several cuttings, that never took root—as he knows several gentlemen in the same box, and has, moreover, noticed that the newspapers and seed store puffers were, just now, very quiet about the Osage, we very naturally came to the conclusion, that the goose had been killed for the golden egg. We sincerely hope that it may prove otherwise, but more stumbling blocks are thrown in the way of our progress in reform, by the ultra puffing of these good-for-every-thing, never-fail, and economi-

cal short-cuts, that are to lead us safely to the goal, than by any thing else.

"Conversational Clubs."—Decidedly the best mode of arriving at the truth, and diffusing useful knowledge—but impracticable, as long as there are so many asses in the world, who think nothing is right that is not done as daddy did it.

"Booms and Broom Corn."—Right--would be glad to see twenty such factories amongst us. There is room enough for hundreds of enterprises of like character--we have as much enterprise, as much industry and as much talent as the Yankees, if it could be properly directed.

"No. 2, by P---Contains many capital suggestions and to the point. There is nothing about which we are more ignorant, than the nature and character of our soils. Certain characteristics belong to particular soils, and very different modes of culture are required, doubtless, in the same field.

"Whalebone."—It is high time we were paying some attention to the propagation of a stock of horses adapted to the farm and the road—the refuse of the racing stables, have reduced the stock of the country to a low ebb.

"Sweet Potatoes."—Red Oak has given us a new method of cultivating this root—but as we don't believe in the moon we don't think the plan would suit us.

"Joint Grass."—The only way it can be eradicated is, by very shallow plowing in winter and summer.

Yours truly, BROOMSEDGE
Big Branch, April 27, 1851.

Joint or Bermuda Grass.

MESSRS. EDITORS:—Your correspondent S. did not mean me, when he asked information from "your able contributors," concerning Joint or Bermuda grass, for they are about the same thing, but as every scribbler is allowed to profess some vanity, I hope he will not be offended at my undertaking to teach him my way of managing it, and my reasons.— But I must beg of you to hold "Paris Mountain" off, for he is terribly severe on Bermuda grass folks. The whole peculiarity about joint grass is, that each joint, either of the root or stalk, that has one eye, is capable in moist earth of becoming a spuncle plant, and when left in the ground, springs up and vegetates. Now in very stiff land it is difficult to subdue, for in dragging the plant out of the ground some joints are broken off and left. In rooty or rocky land it is very difficult for the same reason that it is difficult to get all the joints out of the ground. In land planted in any crop, the same reasons exist, for some roots will get under and around your plants, and continue to live. When the land is very moist it will not die even on the top of the land—neither will crop grass. We now for my plan of extermination, and

have had fourteen years experience with it, and never fail to subdue it when I try, (and that is not often, for I esteem it above all other grasses for grazing) and with comparatively little expense, not more, or much more, than the trouble of subduing any of the turf grasses in the northern States. Land turfed in joint or Bermuda grass, I have always found very fertile for any crop I have planted after it. In the winter when the subsoil is very soft, I cut it up close with a coulter and below the lowermost roots, and if very much turfed, both ways. I then wait until warm days in May, when the ground is in a stiff condition, though as dry as that condition will allow of, I plow it close and deep, with a long scooter plow. My object is to draw out of the earth as much as possible of the grass, to be left uncovered. As soon as the sun has done his office on that, (and it is about as easily killed in a hot sun as rooted crop grass) and the ground is in a suitable condition, I plow it the [other way, and for the same object, and so go on until it is all, or nearly all, killed.— Three or four plowings are all I have ever found necessary. This, if ordinary sea- seasons, will bring about the first of July. I then plant it very thick, indeed, in corn and the common corn-field cow pea. When about three weeks old, I give that crop a plowing; a week afterwards, a careful hoeing, and tell the corn and peas to take possession of the ground, and to annihilate every intruder on other people's rights, whether he comes from Boston or Bermuda—and the pea has never failed to overpower his enervated adversary. If the fall is favorable, I get a good corn and pea crop—ample compensation for all my trouble—and hear no more about the Bemuda grass there, until it is again introduced and allowed to turf.

Now, with these notions modified to each particular case, I consider Bermuda manageable and valuable; for where land is fresh, rooty and stumpy, it is very easy to shade it, so as to make it not formidable, by some luxuriant plant that will spring up ahead of it in the spring, and it will not thrive under the dominant shade and vegetation of any other plant.

I. S. W.

From Wellman's Illustrated Botany.

Prolonged Vitality of Seeds.

The seeds of most plants are endowed with a remarkable power of preserving their vitality for an almost unlimited time, when they are placed in circumstances which neither call their properties into active exercise, nor occasion the decay of their structure. The conditions most favorable for this preservation, are low or moderate temperature, dryness of the surrounding medium, and the absence of oxygen. If all these be arranged in the most favorable manner, there seems no limit to the period for which seeds will retain the power of performing their

vital operations. Even if moisture or oxygen be not entirely excluded, the same result may take place, provided the temperature be low and uniform. Thus many seeds may be kept for several years, freely exposed to the air, if they are not permitted to become damp, in which case they will either germinate or decay.— Some of those which had been kept in the seed-vessels of plants belonging to the herbarium Tournefort, a French botanist, were found to retain their fertility after the lapse of nearly a century. Frequent instances have happened, in which ground, recently turned up, has spontaneously produced plants different from any in their neighborhood. Undoubtedly this is owing, in some cases, to the seeds having been deposited there by the wind, or by other means, and growing because they have found a congenial soil; but there are authentic facts which can only be explained on the principle that the seeds of the newly appearing plants have lain, for a long period, imbedded in the earth, at such a distance from the surface as to prevent the access of air and moisture, and that they have been excited to germination by exposure to the atmosphere. To the westward of Stirling, in Scotland, there is a large peat-bog, a great part of which, has been flooded away, by raising water from the river Teith, and discharging it into the Forth, for the purpose of laying bare the under-soil of clay for cultivation. The clergyman of the parish was, on one occasion, standing by, while the workmen were forming a ditch in this clay, in a part which had been covered with *fourteen feet* of peat earth; observing some seeds in the clay thrown out of this ditch, he took them up and sowed them. They germinated and produced a species of *Chrysanthemum*. A very long period must have elapsed whilst the first covering of clay was formed over the seeds, and of the time necessary to produce fourteen feet of peat earth above this, it is scarcely possible to form an idea.

The following circumstance, which occurred in Maine about thirty years ago, is still more remarkable. Some well-diggers, while sinking a well, at the distance of about forty miles from the sea, when they arrived at the depth of about twenty feet, struck a layer of sand. This excited their curiosity and interest, from the circumstance that no similar sand was to be found anywhere in the neighborhood, nor in any other place except on the sea-beach. As it was drawn up from the well, they placed it in a pile by itself, and did not mix it with the stones and gravel which were also drawn up.— But when the work was finished, and the pile of stones and gravel removed, the sand was scattered about on the spot where it had been at first placed, and was for some time scarcely remembered. In a year or two, however, it was perceived that a number of small trees had sprung from the ground where the sand had been strewn. These trees became, in their turn, objects of strong interest, and care was taken to preserve them from injury. At length they were ascertained to

be Beach Plum trees, a species of *Prunus*, which had never before been seen, except immediately upon the sea-shore, and they actually bore the beach plum. These trees must, therefore, have grown seeds which had existed in the stratum of sea-sand pierced by the well-diggers, and had remained inactive until this was dispersed in such a manner as to expose them to the air. "By what convulsion of the elements," adds the narrator, "they had been thrown there, or how long they had quietly slept beneath the surface of the earth, must be determined by those who know very much more than I do."

Another example, of the same general fact, is interesting from its connection with historical events. During the rebellion in Scotland, in the year 1715, a camp was formed in the King's Park, at Stirling. Wherever the ground was broken, broom sprang up, although none had ever been known to grow there.— The plant was subsequently destroyed; but in 1745, after the ground had been broken up for a like purpose, a similar growth appeared. Sometime afterwards the same thing happened in a field in the neighborhood, from the whole surface of which, about nine inches of soil had been removed. The broom seeds could not have been conveyed by the wind, since they are heavy and without wings; and the form of the ground is such that no stream of water could have transported them, or covered them afterwards with the soil. The effect must have been produced by the operation of causes continued through a long period of time.

The most remarkable instance on record, as presenting satisfactory proof of the lapse of at least 1600 or 1700 years, during which the seed was dormant, is perhaps one related by Prof. Lindley. He says, "I have now before me three plants of raspberries, which have been raised in the gardens of the Horticultural Society, from the seeds taken from the stomach of a man whose skeleton was found thirty feet below the surface of the earth, at the bottom of a barrow,* which was opened at Dorchester. He had been buried with some coins of the Emperor Adrian." Grains of wheat enclosed in the bandages of mummies, are said to have sometimes germinated, and though there is no improbability in the fact, yet as the Arabs, from whom the mummies are generally obtained, are in the habit of previously unrolling them in search of scions, it is not always certain that the seeds which have sprouted were really at first enclosed with the body.

* These barrows are large mounds of earth, common on the downs along the south coast of England. They are evidently artificial, and when dug into, are usually found to contain human remains, with pottery, weapons, coins, and other articles. They are evidently burial places, and as a number of them are usually found together, they seem to have been erected on fields of battle, to contain the bodies of the slain.

SULPHUR on onion plants will kill, or expel the little troublesome maggot.

CLOVER VS. TURNIPS.—The Gardner's & Farmer's Journal says of clover, that next to turnips it is the polar star of all good systems of agriculture. Next to the turnip! How few southern cultivators ever thought of the cultivation of the turnip a benefit to land? We are all crazy to introduce the clovers, and neglect a crop which is better suited to our soil and climate than any other part of the globe, and which scientific men pronounce to be one of the most fertilizing crops that can be grown. The turnip may be cultivated, in all this section, at least nine months in the year. We scarcely ever have a frost sufficient to check the growth of a turnip, and by good management in procuring the early and late varieties, a constant succession may be kept up. Now if the turnip is really a benefit to land, how long we have been blind to our interests, for we know what a vast amount of food for man and proverder for stock one acre will yield.— There is not a farmer in Georgia or Alabama so poor or short handed, but that he may winter his stock and keep his milk cows in good condition, on a small patch of rutabaga and common turnips. We can cultivate them with less than half the labor they are cultivated in England or the northern States, and if turnips make land richer by their culture in England, will it not do the same here? Our farmers are constantly inquiring, how shall we manure our lands? Many seem to think that an application of animal manure is the only sure help to exhausting lands. We do not yet fully appreciate the philosophy of rotation of crops, and especially of cultivating those crops which leave more in the earth than they take from it, as a preparatory crop for our great staples. When the cow pea and turnip crop shall be fully understood and appreciated here, by the shade which they afford the land, by the gases which they convey to the soil from the atmosphere—by the light and permeable state in which they leave the ground, then will our farmers have a resource equal to the famed clover at the north, and with judicious management of the animal and vegetable substances within the reach of every farmer, he may till his lands year after year, and each succeeding year they will increase their productiveness and value. Farmers don't you believe it?— What keeps up the soil of the new world? Lands that feed annually a dense population, and have done it for centuries past and will do it for centuries to come.— What, but a thorough knowledge of the capacities of the soil, and the sustenance required for each variety of crop? It is not that their lands are richer, but that they feed their lands as well as themselves.—*Columbus Enquirer.*

PURPLE DYE.—Put on logwood chips in a copper kettle and let it boil about fifteen minutes. Take it off and strain off the chips, and put in some alum, while hot, to settle color; When dissolved, put in your wool or cotton and set it on the fire and let it boil a few minutes to take the dye.

A Proposition to Agricultural Societies.

BLACK OAK, S. C., May 3, 1851.

MESSRS. EDITORS:—As the subject of Meteorology is now engaging the attention of some of your correspondents, and is one of considerable importance to the planter and of which we have yet to learn much, I take the liberty of making a proposition to the various agricultural societies throughout the Southern States, that they have the proper instruments procured, and appoint some proper person who will undertake the duty to keep a meteorological journal, and at the end of the year to have it printed and distributed among the societies which shall engage in the work. If this plan were generally adopted, we should have in the course of time, a series of observations extending through the cotton growing region which would be exceedingly valuable.—They would show the influence which the seasons have upon our crops; which is now but imperfectly understood. With respect to our great staple (cotton), such a series of observations would furnish us with the means of judging, even before the crop is sent to market, of the probable production, and thus giving to the producer the benefits which accrue from bad seasons and short crops—which without the proper means of judging, he so often suffers to be transferred to the speculator or monopolist.

At present the successful cultivation of cotton is confined to a portion of the Southern States of the Union—a small section of country, when compared with other parts of the world, whose geographical position being somewhat similar, might lead them to expect success. Soil or climate, or both combined, are so admirably adapted to its culture here, that we may suppose the *very conditions* most favorable to its growth are to be found. What are those *conditions*? Good soil of course is essential—and that may be found elsewhere—but we all know that climate,

by which is meant the alternations of heat and cold, the length and mean temperature of the growing season, the proper distribution of moisture, &c., &c., plays by far the most important part. Such a series would aid very much in solving that very important inquiry, viz: the capacity of other regions of the world for competing with us successfully in the cultivation of cotton.

That they might be most available these records should be uniform—the observations should be of the same kind, and taken with proper instruments.

Having undertaken to make the suggestion, I will now indicate a form which will perhaps embrace all the information we shall need—at any rate for the present. As new subjects of inquiry arise, they can be attended to.

A self registering Thermometer, Mason's Hygrometer, a Barometer, a rain gauge, and, where the situation is favorable, a wind vane, are all the instruments necessary for such a work.

The registering Thermometer should be placed in a perfectly-exposed situation, sufficiently removed from trees and houses, to allow of free radiation by night, and exposed to the direct rays of the sun by day. This will indicate the true temperature to which our growing plants are exposed. The maximum and minimum should be recorded each day.

Mason's Hygrometer should be placed in an open place under shelter, where there is a free circulation of air, and the dry bulb, wet bulb and dew point,* noted three times a day—say at sunrise, 2 o'clock p. m., and 9 o'clock p. m.

The state of the barometer should be noted

* After the wet and dry bulbs are noted, the dew point is calculated by the following formula, which has been found correct in all cases, viz: Subtract the wet from dry bulb, multiply the difference by 103—divide by wet bulb and subtract quotient from dry bulb.

thrice a day, at the above stated times. Direction of the wind, amount of rain in inches, and general remarks upon the state of the weather, noticing particularly late frosts in the spring, and early frosts in autumn which may injure growing crops—thunder storms, noting the direction from which they come, hail storms and hurricanes, and any other meteoric phenomena which may be deemed worthy of note, may be noticed under head of general remarks.

The Smithsonian Institute in Washington is devoting a good deal of attention to meteorology, and will be glad to receive copies of all these registers. By applying to the Institute, observers will be furnished with a "Registry of periodical phenomena," containing a list of plants to be particularly observed, with a view to ascertaining the flowering season of, and also the first appearance in each locality of certain migratory animals. "It is in contemplation to use the information thus obtained, in the construction of a series of tables, showing the geographical distribution of the animal and vegetable kingdoms of North America."

In order to facilitate the interchange of these registers among the different societies or individuals who may engage in the work, it is further suggested that the name of each society, should be furnished to the editors of the Farmer and Planter, who, we are sure, will co-operate in the good work, and publish a list of such societies with their post office address.

It may be stated, in conclusion, that the Black Oak Agricultural society (post office Black Oak, S. C.) is now, and has been for several years past, keeping a register, and we are sure will join heartily in such an interchange.

A form of a registry is here appended, which if the editors can conveniently print, would tend to secure uniformity in the observations:

H. W. R.

Days	MASON'S HYGROMETER						BAROMETER																
	Reg. Ther.	Max.	Min.	Sunrise.	Dry bulb.	Wet bulb.	Dew point.	2 P. M.	Dry bulb.	Wet bulb.	Dew point.	9 P. M.	Dry bulb.	Wet bulb.	Dew point.	Sunrise.	2 P. M.	9 P. M.	Rain in inches	Winds	General remarks		
Monday, 1.																							
Tuesday, 2.																							
Wednesday, 3.																							

Ashes of the Cotton Stalk, Composition of Cotton Soils.

IT is believed the following report by J. LAWRENCE SMITH, to the Black Oak agricultural Society, will be read with interest and profit, by all engaged in the cultivation of cotton. It is one of those papers that may be perused more than once, without a waste of time. The tabular view of the composition of soils and of the cotton plant, is valuable for the uses of reference, as are also the hints upon the diseases of cotton:

REPORT.

THE ashes left after the combustion of plants have, until a very late period, been considered merely accidental ingredients, that varied in quality and quantity even in the same plant growing in the

same region; this incombustible part was therefore looked upon as exerting no influence on the health and vigor of the plant.

The researches of modern chemists have proved the error of this supposition, by directing their time and labor and in applying knowledge acquired in the laboratory, to agriculture and rural economy in general; and although among the many views promulgated by them, there is some error, the facts that have been brought to light, will always make the agriculturist the chemist's debtor, and should teach him to regard with proper respect what may in his eye appear to be hasty generalization.

The chemist has pointed out by analysis, that the ashes of plants of the same

description, though growing in different climates, contain the same or similar ingredients. Thus, the pines of Norway and Italy, when burnt, left earthy portions that are strikingly similar; this also being true of the oaks of the same countries, although these latter differed materially from the pines in their ashes.

Let it not be understood that the amount of the different substances present in the ashes of the same plant is so identical, as only to vary by the fraction of a grain; it is sufficient to bear in mind, that the leading ingredients are the same, and the whole character of the ashes such, as to enable us to infer that they belong to similar plants; the same is true for different parts of the same plants. Were it deemed necessary, numerous in-

stances might be cited to prove the point in question, but any recent work on agriculture will convince the inquirer of this.

As the character of the ashes of plants is so invariable, it must occur to the minds of all, that they play an important part in the economy of plants, and without them plants could not grow; such a supposition the most rigid and careful experiments have proved to be correct. It being also shown that the source from whence the ashes comes, is the soil, for plants create nothing, but only appropriate to themselves elements already existing; simply arranging them so as to give rise to certain compounds—forming their woody portions from elements existing in the atmosphere and water, and their earthy parts from the soil, which must contain all the elements necessary, as the absence of even one will be the cause of a sickly and imperfect growth.

Without dwelling further on this subject, every one must see the necessity of having all the required ingredients present in the soil, or of supplying them if deficient; therefore the importance of a knowledge of what is the composition of soils upon which we wish to grow certain plants. I do not pretend to say, that with a thorough knowledge of the mere chemical composition of the soil, all the planter's ends are to be answered, or that he will obtain the directions necessary for the improvement of his soils, as there are other properties of the soil besides its composition that influence the growth of the plant; as for instance its texture, which may be open or compact. If a soil contains all the substances a plant requires, and be compact and moist, when an open and dry soil is congenial to the plant, it will decay or arrive at imperfect maturity. It is for this reason that the chemist, in analyzing soils, has done so little for practical agriculture, he has allowed his views to become too narrowed and not examined sufficiently into other qualities of the soil. In fact the only way that practical benefit is to be derived, is by careful investigation on their part, and patience on the part of farmers, (who must have, in other ways, seen undeniable benefits arising to them from the chemist's labors.) If this be attended to, in a few years incalculable will be their results to rural economy, and a method of analysis will be brought to bear, upon soils, that will answer all the required ends.

The subdivision of the parts of plants into earthy and combustible portions, belongs also to animals—in the higher orders of which, they appear in some degree separated from each other, the earthy parts constituting the mass of the bones. In others, however, as the worm, insects, &c., they are intimately blended as in the plant. The prominent ingredients also of the earthy parts of the vegetable and animal kingdoms are the same, which is a natural result, as all animals, either directly or indirectly, obtain their nourishment from plants. These ingredients are lime, phosphoric acid and potash, the two first more especially, and they

may be considered *par excellence* the earthy ingredients of the animal and vegetable kingdoms, without a sufficiency of which, neither one nor the other may expect a healthy growth. So, then, in studying soils, these ingredients should particularly engross our attention as the subject of this report will show.

The ashes of a healthy cotton stalk, six feet high and an inch in diameter, at the largest part, with some leaves and empty pods, consists of—in 1000 parts:—

Lime	-	-	303.
Potash	-	-	243.
Phosphoric acid	-	-	91.
Magnesia	-	-	58.
Oxide of iron	-	-	4.
Sulphuric acid	-	-	13.
Chlorine	-	-	8.
Carbonic acid	-	-	270.
Sand	-	-	5.

The half per cent. of sand arose from what was on external portions of the stalk and could not be readily dusted off. The carbonic acid arises from the combustion of the plant, and does not previously exist in it. The chlorine that is but little over a half per cent., the sulphuric acid which is but a little over one

per cent., and the oxide of iron which is not one half per cent., may be considered as ingredients of but little if of any importance to the plant. Thereby reducing the really important ingredients to phosphoric acid, potash, lime and magnesia; this last, however, is always to be looked upon in plants, in the light of lime, and it can be replaced by lime entirely, without prejudice to the plant.. The analysis which I have made of the cotton wool and seed (but which do not form a part of the report) as well as the analysis made by others of the same, show that in these also, phosphoric acid, potash and lime are the important constituents. In the analysis of your soils, then, these have been particularly looked to, and with satisfactory results, except in the case of potash, which exists in such small quantities in all soils as renders it exceedingly difficult to collect and estimate; but I had hoped to overcome this difficulty if my duties did not now call me away from home.

The soils sent were marked by letters, the surface and the subsoil from the same spot being designated by the same letter marked 1 and 2 respectively.

Name.	Soil.	In 1000 parts.				Portion of 1000 parts soluble in warm muriatic acid							Magnesia	Colour of the soil
		Sand	Clay	Moisture.	Vegetable matter.	Alumina.	Oxide of iron	Lime	Phosphoric acid	Chlorine	Potash and soda.	Sulphuric acid		
Somerton	A 1	760	140	30	70	3.40	2.70	1.20	2.00	trace.	trace		0.30	
	A 2	800	155	25	20	3.00	2.50	1.30	2.30	trace.	trace		0.20	
Frierson's	B 1	800	170	10	20	1.26	1.10	1.00	0.16	0.06	0.08			
	B 2	850	132	10	8	1.15	1.20	0.60	0.17	0.04	0.06			
Frierson's	C 1	680	270	20	30	1.30	1.50	0.41		0.36	0.52			
	C 2	700	252	18	30	1.32	1.40	0.52		0.25	0.42			
Ophir	D 1	800	166	12	22	1.20	1.54	3.32	0.29	0.12	0.03			
	D 2	850	122	13	15	2.80	1.60	0.12	0.36	0.57	0.45			
Pineopolis	E	900	62	8	30	0.63	0.36	1.20			trace.	trace		
	F 1	860	55	25	60	2.60	0.35	1.20	0.05	0.29	0.20	0.56	0.10	
Cedar Spring	F 2	905	50	25	20	2.80	0.36	1.40	0.06	0.28	0.15	0.57	0.05	
	do	700	253	20	25	0.630	0.90	1.10	0.02	0.32	0.40			
Biggin Swamp	H 1	810	102	28	60	6.20	2.30	0.71	1.15	0.23	0.52	0.51	0.25	
	H 2	870	95	20	15	5.50	2.10	0.85	1.21	0.12	0.60	0.30	0.10	
Hog Swamp	I	760	200	10	30	2.25	3.00	10.40	0.22	0.15	0.08		0.38	
	J 1	730	150	40	80	5.20	8.53	1.60	0.08	0.04	0.02			
W. J. Demis'	J 2	775	140	45	40	4.80	8.20	0.85	0.08	0.02	0.01			
	K 1	760	130	40	70	5.40	4.50	4.62	0.26					
Mrs. Prioleau	K 2	783	125	42	50	4.50	4.02	3.21	0.28					
	L 1	825	140	10	25	2.30	1.50	0.45	0.12			0.13		
A. J. Harvey's	L 2	862	120	8	10	1.80	1.65	0.62	0.20			0.16		
	M 1	820	100	30	50	1.10	0.950	0.42	0.06					
H. Harvey's	M 1	875	90	20	15	1.50	0.659	0.61	0.08					
	N	800	110	32	58	2.40	1.680	3.20	0.20					
Jas. Gaillard	O	850	100	25	25	1.80	1.42	0.55	0.05	trace	trace			
	P	720	180	40	60	3.20	0.90	0.35	0.07	trace	trace			
J. W. Porcher	Q	705	250	20	25	3.30	2.50	1.25	0.03	trace	trace			
	R	705	250	20	25	3.30	2.50	1.25	0.03	trace	trace			

From these analyses I should certainly conclude that A and H were the best soils, on account of the larger proportion of phosphoric acid contained in them.— Of these two, I am disposed to think that H will be found the better, from it containing more potash, chlorine, and carbonic acid than A, although it has not quite as much phosphoric acid; a little dressing of leached ashes placed around the plant, will very probably improve the growth of cotton. The next best, according to these analyses, would appear to be E. D. I. K. L. N. But B. D. and

K. are said to rust cotton, the cause of which I will allude to in another part of this report, at least so far as I have been able to make it out. All the others I should consider as being able to grow cotton fairly, except E, which would appear to be unfitted for almost any plant.

It is not the province, of this report, to enter upon the various methods of improving these cotton soils, but it may not be out of place to state one thing that occurs to my mind, bearing upon the wants of the plant, and character of the soils. It is, to let the laborer, when he

thins out for the last time, carry with him a bag containing a mixture of ground bones, (about as fine as river sand,) mixed with an equal quantity of leached ashes, and at the root of every stalk he leaves standing, throw a good handful immediately around it. In fact there is but little doubt but that it will be found far more beneficial as a manure than cotton seed, and requiring a much less quantity.

The Ashley river marls and all such marls as contain from 4 to 10 per cent. of phosphate of lime, will answer well to put on the top of the ridges after the planting of the seed.

In a letter received from Mr. F. A. Porcher, accompanying the soils, he stated, that *F* and *G* are representations of soils not very rich, but very safe; and reference to my analyses will bear this out. I should have stated, although I have no mention made of what sort of soil *C* is found to be, that I consider it a very inferior one. If any general conclusion can be arrived at from the analyses, it is, that cotton soils—*every thing being alike—is valuable according to the amount of phosphoric acid present.*

The last point to be considered in this report is that of *rust* in cotton, and here *every thing* is to be learnt. *Rust*, as a term in agriculture, is in about the same position as that of *dispepsia* in medicine. It is a name given to a variety of diseases which have some resemblance to each other, but are widely different as to their causes. The rust, properly speaking, and which so commonly attacks wheat, is certainly a kind of parasitic plant of the class of fungi, that grows on the stalk, leaves, &c., of the wheat and other grain, under certain disadvantageous circumstances of weather and season.—The seeds of this parasite are wafted by the breeze to the spot where it germinates; it takes root in the body of the stalk and interrupts the maturation of the seed. This rust is somewhat the color of iron rust, from which it derives its name; it readily detaches itself, and when burnt, leaves a little ashes. Now I am not aware that rust of this description has ever been known to infect cotton, that which attacks cotton shows no fungus growth, but under the effects of it, the plant becomes blighted, changes its color and dies.

To arrive at the true cause of the rust of cotton, the planter will have, by very close examination, to distinguish between the different kinds, if there be any difference, and mark well the influences that are operating upon the plant at the time they occur. When he goes as far as he can in this, let him call to his aid the chemist, give him the *rusted cotton stalk* and a *healthy cotton stalk of precisely the same size and growth*, as well as a portion of the soil taken up at the time the effects are noted. In acting in this way, the planter may hope to find out the causes of this blight, and they will of course point out the remedy, which if practicable, will meet all the wishes and repay the labor of the planter. It is not a rigorous method of comparison, to examine the ashes of healthy and diseased

plants, unless they are of the same stage of growth, for ashes of plants differ with their age. Wheat-straw, just before the grain begins to form, contains some of those ingredients that afterwards abandon, to a great degree, the straw and pass into the grain, making a decided difference between the ashes of the young, and the matured wheat straw.

My examination into the cause of the rust is very imperfect, not having been furnished, as you must now see, with the proper data to go upon in my investigation; but what has been done shall be made known to your body. I have no doubt that the peculiarity of seasons may produce these diseases as well as animalcule developed in the soil; but my firm belief is, that noxious substances in the soil are frequently the causes, and they are more commonly some of the preparations of iron—the *protoxide of iron* especially. This protoxide of iron was found by me in much larger quantities in *D* and *K*, than any of the other soils, in fact some of them contained none of it.

I can pronounce, with but little confidence, any thing brought to light by the analysis of the cotton stalks, for the healthy and rusted stalks placed in my hands, differed too much in size and age, to furnish much information from the comparative composition of their ashes. But I did all that it was possible to do under the circumstances. There was a decided difference in the amount of *oxide of iron* in the two ashes: the ashes of the full grown healthy plant, it was only *one half per cent.*, while in the ashes of the plant diseased, it was *two and a quarter per cent.* The phosphoric acid of the two did not differ materially, the healthy having nine, and the diseased eight per cent. The proportion of lime was different, the diseased forty, and the healthy thirty per cent. The proportion of potash in the diseased was fifteen per cent., while that of the healthy stalk was twenty-four.

The protoxide of iron alluded to above, is, by exposure to the atmosphere, converted into the peroxide, a form from which no injurious effect may be expected, except when in very great excess; so I would suggest that in planting these lands, which rust cotton, as *D* and *K*, to disturb the surface as little as possible. This I know to answer in the case of certain soils, that were examined for Dr. Townsend, of John's Island.

I am sorry that my unavoidable absence from America, will render it impossible to prosecute these labors, commenced under the auspices of your Society, and I regret it the more since much time has been consumed in fixing upon methods best suited for carrying on these investigations. I hope, however, that the active part taken by you in inquiring into the true nature of the circumstances governing the growth of cotton, will be crowned with the success it deserves, and that the report may aid in pointing out the right course to be pursued.

ANGER is like rain, which breaks itself upon that on which it falls.

The attention of Agricultural Societies solicited.

SEVERAL communications upon the subject of Meteorology have appeared in the late numbers of this journal, and give evidence of an increasing interest in this branch of science. On another page of this issue a correspondent of Black Oak makes a definite proposition to the Agricultural Societies of the cotton growing region, to which we would invite their special notice. The matter is certainly worthy of attention, and the plan suggested for carrying into operation a system of observations, apart from the source from which it emanates, commends itself to a favorable consideration. All classes of society, from motives of comfort or interest, are induced to pay regard to climate. The sea-faring man, the traveller, the invalid, the man in pursuit of pleasure, but more than all the husbandman is concerned in the phenomena of the atmosphere.—At different periods of the world men have looked upon unusual appearances in the skies with feelings of superstition, and have regarded the Aurora Borealis, Comets, and many other phenomena, precursors of war, famine, death, or some other awful calamity, but in proportion as a knowledge of meteorology has gained ground these superstitious notions have been dissipated; and in proportion as men have a better acquaintance with the influence of light, heat, and electricity upon vegetation, they will become more intelligent and more successful tillers of the soil. The relation of rain and dews to our crops, of freezing, thawing, evaporation, clouds, the force, direction, and velocity of winds, are yet to be made the subject of earnest and profound study, before men will plow, sow and reap to the best advantage. The husbandman tills for successive seasons the same lands, which sometimes return to him abundant and at others blighted harvests. He cultivates soil of the same external appearance as others though in a different geographical position; analyses show the presence of the same ingredients in like proportions, and his mode of culture is the same, yet his success widely different, and to what else is the difference to be ascribed than the agency of climate? The effects of a peninsulated position, of rivers, mountains, valleys, plains, salt water atmosphere upon the agriculture of a country, invite the close attention of the planter. But observations to be valuable must be correct, and without minute accuracy registers are entitled to very little confidence.

This accuracy the plan suggested is well calculated to secure, and we shall take pleasure in doing whatever we can to facilitate the interchange among the various societies of the cotton growing region. The practice of interchange among agricultural societies and among planters, is desirable, and we have taken occasion before to urge the importance of a free intercourse. We hope the proposition of Mr. H. W. R. will meet with a ready and cordial response from every society in the Southern States, and the design of these lines is to extend an invitation, or rather, a solicitation to the *presiding officer, or some other person who approves the plan, to lay the proposition of keeping a Meteorological Register before the members of your Society.*

orological Register as indicated, before the society of which he is a member, at its first meeting. The person will further oblige the societies at large, and ourselves too, by communicating to us the decision of the society, notice of which will be given through the Farmer and Planter.

DRYING SPECIMENS OF FLOWERS.

As the season for collecting plants is approaching, may I be permitted to give the particulars of the process I have adopted in drying specimens of the *Hor-tus Siccus*, especially the more delicate and succulent ones, for which I have found it peculiarly adapted, as it combines the greatest equality of pressure, with dispatch in drying. My method is as follows: The apparatus required is very simple, consisting of a few canvas or linen bags, of such a size that, when laid flat, they will rather more than cover a sheet of demy paper, a quantity of clean sand, an old saucepan, or other convenient vessel, to heat it in, and a few quires of blotting paper. Having provided these, first put a sufficient quantity of sand in the saucepan, over the fire, and, while this is heating, take a quire of blotting paper, on which arrange the plants, covering them with two or three sheets of blotting paper. When the sand is sufficiently heated, and uniformly so, (which may be promoted by stirring it with a stick,) pour into one of the bags enough to fill it to one-third. The mouth of the bag being closed, by tying or folding back, it is then to be laid carefully over the plants arranged between the paper, and the sand contained in it to be spread out by the hand, and pressed with a board, so as to form a flat uniform surface.

This process may be repeated, several layers of paper, plants, and sand-bags being laid on one another. If this is done, no extra weight will be required—the smallest and most delicate plants being placed in the uppermost layers; but if the subject be large and thick, a board and weight will be generally necessary.

Unless they are very thick and succulent, in which case they may require a second application of hot sand, the plants will generally be found quite dry within twenty-four hours, and often much sooner. This is one advantage, as, by this rapid desiccation, the color is preserved in the greatest perfection—i. e., if the temperature be well regulated. The second, and perhaps of more importance as regards the botanical value of the specimen, is, that the sand, by adapting itself to the inequalities of the objects under pressure, prevents any crushing of stems, receptacles, etc., while the parts of the leaves in juxtaposition with the hard, thick stem, which, by the ordinary method, escape any pressure, and consequently shrivel up, are all equally flattened.

I am not aware that this method has been adopted at all generally, never having seen it made use of elsewhere, nor mentioned among the numerous published instructions for preserving plants.

This is my motive for this communि-

cation, which I hope may, in some instances, be found useful; if it should not, I beg pardon for thus trespassing on your time and attention.—*Pharm. Journal, London.*

Bees.

HAVING now summed up all that was done by a host of learned men by investigating the natural history of the bee, amounting in the whole to a few facts, I now come to speak of Huber, a native of Geneva, who has done more to elucidate our subject than all his great predecessors.

If Butler first pointed out that wax and farina were quite distinct substances, and Thorley found wax under the wings of working bees, it was left to Huber to give a full explanation. If Schirach and Debray discovered that bees have the power to make a working bee maggot into a queen, they thought that it was the only way the God of Nature had provided for the formation of a queen, it was left to Huber to render the experiment complete. If Riem discovered fertile workers, Huber showed the cause of them, namely, their having been nursed near royal cells, and having been fed upon royal jelly. If naturalists knew that drones were destroyed, or driven away in the autumn, it was Huber who discovered that they were stung to death by the working bees at the bottom of the hive, and there only.

Francis Huber was born, at Geneva, on the 2nd of July, 1750, and inherited a taste for natural history from his father. By the writings of Bonnet, and by an intimacy with him, his attention was turned to the subject of bees. Most unfortunately, he lost his sight, but had an assistant in Francis Berens, quite qualified for the task of carrying into effect the suggestions of his employer; and in Peter Huber, his son, he had a coadjutor in every way worthy of such a father, and who afterwards became the discoverer of the natural history of the ant. The elder Huber had married Maria Aimee Lullen, the daughter of a Swiss magistrate, who warmly entered into all his views, and assisted in his experiments, as did also his daughter Jurine; by her skill in anatomy, she has forever set at rest all disputes as to the sex of the working bee.—She died very young, or she would probably have added more facts to our knowledge of bees.

The discoveries of Huber are most splendid, and his little work ought to be in the hands of every lover of natural history. Huber lived to a good old age, and died on the 22nd day of December, 1831, aged eighty-one; but his name will forever exist in the minds of all who love to study the works of the great Creator.—After all Huber's discoveries, there are still sonic facts which want elucidation. The age to which bees live is still unknown; and whether the honey which bees collect from flowers undergoes any change in the honey-bag of the bee, or is deposited in the exact state in which it is found, is also involved in mystery.—*Cottage Gardener.*

More of the Cherokee Country.

MESSRS. EDITORS:—Broomsgrove thinks I am mistaken in supposing our Cherokee country very calcareous. I used the term more in a popular than scientific sense. It is all evidently a secondary formation. I found no primitive rocks there, but quartz, and they ground round by trituration, evidently in water currents on their way from the contiguous mountains. The oldest geological formation I found there, was mountain limestone, alternating in the sand stone.—Generally overlaying that I found a soft, decomposable shale or slate rock, but semi-crystallized, composed, as I thought, of iron, lime, clay and sand, and probably magnesia, in different proportions. I supposed a heterogeneous deposit, some in still and some in running water, and each locality received its peculiar character and qualities from the substances that had been brought there and deposited; some from beds of iron ore, some from lime, &c., as the case might be.—And when I spoke of exhaustion, or non-fertility, from the agency of lime, I included all the agents, particularly the oxides of iron that was found combined in this mass; all of which are valuable fertilizers when in proper proportions with other elements, but deleterious when not properly proportioned or in excess.

Respectfully, I. S. WHITTEN.

SOUPS.

THE delicate and proper blending of savors is the chief art of good soup making. Be sure to skim the grease off the soup when it first boils, or it will not become clear. Throw in a little salt to bring up the skum. Remove all the grease. Be sure to simmer softly, and never let a soup boil hard. Put the meat into cold water, and let it grow warm slowly. This dissolves the gelatine, allows the albumen to disengage, and the scum to rise and diffuse the savory part of the meat. But if the soup is over a hot fire, the albumen coagulates, and hardens the meat, prevents the water from penetrating, and the savory part from disengaging itself. Thus the broth will be without flavor, and the meat tough. Allow two table spoonfulls of salt to four quarts of soup, where there are many vegetables, and one and a half where there are few. Be sure not to leave any fat floating on the surface. A quart of water, or a little less, to a pound of meat, is a good rule. Soup made of uncooked meat is as good the second day if heated to the boiling point. If more water is needed, use boiling hot water, as cold or lukewarm spoils the soup. It is thought that potato water is unhealthy, and therefore do not boil potatoes in the soup, but boil elsewhere and add them when nearly cooked. The water in

which poultry or fresh meat is boiled should be saved for gravies or soup the next day. If you do not need it, give it to the poor. Keep the vessel, in which you boil soup, clean and tight, that the flavor be not lost. Never leave soup in metal pots, as sometimes a family is thus poisoned. Thickened soups require more seasoning, nearly double the quantity used for thin soups.—*N. England Farmer.*

Cucumbers.—When a cucumber is taken from the vine, let it be cut off with a knife, leaving about an eighth of an inch of the cucumber remaining to the stem upon which it grew, then slit the stem with a knife from its end to the vine, leaving a particle of the cucumber to each division, and as many slits or divisions as are made in it, there will be new cucumbers, as large and as fine as those that grow in the ordinary way.—*Agriculturist.*

Grasses.

THE COMMITTEE on grasses, appointed by the Pendleton Farmers' Society for the anniversary meeting in the autumn of 1850, read the following paper:

Mr. R. A. MAXWELL reports that he planted last spring about three-fourths of an acre in Lucerne, and hopes he will be able to report a satisfactory result the next season. He considers it, as a grass for manured lots, greatly superior to any other grass, not excepting the far-famed clover. He has known six cuttings in one season from the same patch; and as clover only furnishes two cuttings it must be superior in the ratio of two to one.—The cuttings are usually about knee high, and in richness and luxuriance, he thinks no green food can surpass it. In point of durability, it far exceeds the clover, which being a biennial plant, declines and dies out after that time. In relation to the longevity of the different grasses, Chancellor Livingston of New York, said of Lucerne, that it was "immortal."—But its great superiority is, it does not salivate the horse and other animals, as clover does. In this respect it is greatly to be preferred, as the second crop of clover cannot be used as a green food.

Your Committee would therefore warmly recommend that the premium for cultivated grasses be continued another year, and that our farmers be urged to try a small lot by way of experiment. They confidently believe after the experiment is successfully tried, that no farmer who has ascertained its value will be without a lot of Lucerne. The seed can be procured by our merchants from New York, or Philadelphia, at about thirty or forty cents per pound. The proper time of

sowing or drilling it, is in the fall or spring. As it is necessary to keep it clean, fall sowing is preferable. The drills should be about two feet apart, and the land highly manured. The yield of the crop will, like all other crops, be in proportion to the fertility of the land.

Time of Cutting and Manner of Curing Clover.

ALTHOUGH the climate of the South is not altogether genial to the growth of this grass, it is found worth the pains to have at least a small plot for soiling, and many planters are so much pleased with it as a fodder as to save more or less of it every year, for winter use. It requires some attention to make it into hay without wasting the better parts. The stalk is very succulent and, unless care be taken, the leaves crumble and fall on the ground before the stalk is properly dried. It should be cut while in the bloom, and not spread as is usual with Timothy, and other grasses, but left in the swath some hours, until it has wilted and begins to feel on the top a little dry to the hand. Then it should be turned over and left as light as possible that the air may pass through and dry it. Before night it should be put up in heaps of a hundred pounds each, and suffered to remain in the field till the second evening, or longer, if it is not pretty well cured and the weather promises to be good. By this process the leaves will be saved, the stalk become dry, the hay have a bright appearance and will be greedily eaten by stock, particularly the horse. If not put up in heaps, but suffered to lie exposed to the dews when in a partially dried state, it will turn dark or black, and be much injured, or if wet with rains it will be almost worthless. When it is cured enough (not too much), take it to the barn and scatter over it, at different times as it is thrown off, 12 or 15 quarts of salt to the ton.

It should not be stacked in the field, as it is impossible to put it up compact enough to shed water. The suggestion that it be cut when in the bloom, is important, because if suffered to stand later, it becomes woody, unpalatable and indigestible. The leaves and finer parts, notwithstanding the most careful treatment, will be broken off in handling, and the hay little better than a bundle of dry sticks, more suitable for the horse's feet as a bed than his mouth for fodder.

Preparing and Sowing Clover or Timothy Seed.

TAKE one bushel of clover seed, put it in a pile on your barn floor. Make three gallons of pickle, not quite strong enough to bear an egg, put it on the seed, mix it thoroughly, in the evening with a paddle or shovel, and then spread it on the floor, four inches thick. The next morning, wet it again as above; then mix about one peck of plaster, by sprinkling two quarts upon it at a time, well stirred; spread out your heap again, and so on till you have it so well dried with plaster that the seed will not stick together. Sow while the seed is damp. One bushel thus prepared will make over one and a half bushels

The advantage of sowing in this way is, you save at least one-third your seed, and are almost certain of its growing. In the spring and summer of 1849, I sowed in four different pieces, 42 acres in the above way, six quarts to the acre, not one acre of which "missed." I sowed nine acres in the "old way," viz: the clean dry seed, six quarts to the acre. On the whole field there may be two acres of clover, not more. I also sowed nine bushels of plaster on this field; not any on the other.

An experienced gentleman told me of this way, and that he had seldom if ever missed having plenty of clover, and thick enough too.

Ab. Cultivator.]

B. M. FLETCHER.

From the American Agriculturist.

Southern Cattle.

THERE are some individuals in this State who own as many as six thousand head of cattle.—They seldom feed anything but their oxen.—About the 1st of March, the person owning the cattle gets all his drivers together, generally thirty or forty in number, mounted on horses of his own raising. They then proceed to the prairies where the cattle range, and collect them together for miles around, into a herd; they then proceed to separate the cows and calves from the dry cattle. This, as you would most likely expect, occupies a whole day, with all the hands which can be obtained.

After getting the cows and calves by themselves, they are driven into a large pen, capable of holding several thousand. The calves are then kept up for a month or six weeks (their mothers being turned in with them every evening where they remain all night and are turned out again in the morning). In these large herds, the increase is generally 1,500 to 1,600 a year, and their owner sells 700 or 800 beeves annually, at from \$10 to \$15 per head.

I think this state will eventually be one of the greatest stock-raising countries in the world. It is every where well watered, and consists almost wholly of prairie land, which, in all seasons of the year, contains a sufficient quantity of grass to sustain any number of cattle; and moreover, the climate is so mild, that there is not the least necessity for artificial shelter during the winter. In this country, we very seldom hear of cattle dying with murrain, and similar diseases to which they are subject. Sometimes in the heat of summer, the fattest of the cattle die, but this is seldom the case unless they have been driven very hard.

Most of the cattle in this State are of Spanish descent, and may be known by their long horns, fierce and savage looks, and their apparent dislike to mankind. It is almost impossible to tame a Spanish cow, so that she will come into a pen without trouble, or be milked without being tied; for this is the way in which most of the milch cows are tamed; but after awhile they get so that they will only stand when the rope is around their horns. But what is very singular, you hardly ever see a large stock raiser who has a sufficient quantity of milk and butter for his table. I am well acquainted with a man, who

owns three thousand head of cattle, and yet is obliged to buy all his butter.

The cattle are never salted, and never see a pen more than once or twice a-year D* *

Houston, Texas, Jan., 1851.

Use of Ashes.

HITHERTO the natural fertility of the soil has not rendered it necessary to pay that strict attention to its improvement that is indicated in the future; but the time is coming, and now is, when, if we would have this fertility continued, nay, increased, we must pay strict attention to the laws of nature, the wisdom of experience, and the light of science. Experience teaches us that certain crops exhaust the soil, the laws of nature require that the lost principles be restored, while science, taking the lump of earth, which, to the mere working man, is inert matter, analyzes its parts, ascertains the missing element, and applies the remedy. The remedies most generally used are lime, leached ashes, and barn-yard manure. Lime, of itself, is not a fertilizer; its action is altogether chemical, warming up, vivifying dormant or exhausted properties in the soil, and imparting to the plant itself (as wheat for instance) that portion which its sustenance requires. Thus it is that, when mixed with peat in proper proportions, the heat of the unslaked lime operating upon the vegetable character of the peat, its vitality is destroyed, and the whole mass becomes a valuable manure for any kind of crop.

Leached ashes, the refuse of our asheries, is a most excellent manure. I regret to notice in many localities an entire neglect of this admirable fertilizer. Immense heaps of them are now lying in different parts of our country, unnoticed, except as a nuisance. This is a great mistake, as a careful analysis shows a large proportion of the most necessary ingredients for the production of wheat. When I came into the neighborhood in which I live, I found a great prejudice against the use of leached ashes. At an ashery on an adjoining farm a large quantity had accumulated. Although at that time I had no practical acquaintance with farming, yet having read somewhere that ashes were good manure, I obtained the cheerful consent of the owner to remove the nuisance. I took for my experiment an exhausted field of seven acres, which had yielded, I believe, at its last sowing, about twelve bushels of oats to the acre. On this field I hauled and plowed in about one hundred loads of ashes (about 3,000 bushels), at which all my neighbors laughed, and cried "*the man is a fool.*" But soon a wonder came to light, which showed them they were mistaken; the field was not ruined, but, instead thereof, the first crop was about 25 bushels of good wheat to the acre.—The next year ashes rose to 25 cents per load, and now cannot be had at all, the owner preferring to use them on his own farm. I will be met here with the objection that every body cannot afford to buy lime or leached ashes. This is all a mistake; no farm can do well without them, and so long as the former can be had at ten cents per bushel, and the latter for fifty cents

per load, he had better mortgage his farm than not have them. But every farmer can at least save his barn yard manure, and how shamefully negligent some people are about this matter.—All through our country are to be found farmers whose barns opening on the main road, give easy access to their stock to lie there, and there they lie summer and winter. A bundle of straw or a morsel of hay is thrown out to them on the ground, to be eaten or trodden under foot; all the benefits of the droppings are lost, the land is impoverished, and poor struggling nature calls for help in vain. This is all wrong. Every particle of food ought to be given under cover; every barn-yard should be carefully bedded down. Leaves, muck, rotten wood, coal-ashes, ought to be added whenever they can be obtained, and in the spring the whole mass ought to be thrown into heaps, that it may ferment and destroy the seeds of all noxious weeds, and then after harvest it may be hauled on your intended wheat fields, to repay you amply in good clean wheat for all your pains and labor.

This has been my practice, and the result has been that I annually put upon my wheat lands from two hundred to three hundred loads of well rotted manure.

W.M. LITTLE.

Western Agriculturist.]

Signs of a Prosperous Farmer.

When lights are seen burning in the house before the break of day, in winter especially, it shows that the day will never break on the breaking in of the winter of adversity.

When you see his barn larger than his house, it shows that he will have large profits and small afflictions.

When you see him driving his work instead of his work driving him, it shows that he will never be driven from good resolutions, and that he will certainly work his way to prosperity.

When you see in his house more lamps for burning lard or grease, than candlesticks for more expensive purposes, it shows that economy is lighting his way to happiness and plenty with that light which should enlighten every farmer in the world.

When you always see in his wood-house a deficiency for three months or more, it shows that he will be a more than nine days' wonder, in farming operations, and that he is not sleeping in his house after a drunken frolic.

When he has a house separate from the main building, purposely for ashes, and an iron or tin vessel to transport them, it shows that he never built his dwelling to be a funeral pile for his family, and perhaps himself.

When his hog pen is boarded inside and out it shows that he is "going the whole hog," keeping plenty inside his house and poverty out.

When his sled is housed in summer, and his farming implements covered both winter and summer, it plainly shows that he will have a good house over his head in the summer of early life, and the winter of old age.

When his cattle are properly sheltered and fed in winter, it evidences that he is acting according to Scripture, which says that "a merciful man is merciful to his beast."

When he is seen subscribing for a newspaper, and paying in advance, it shows that he is speaking like a book respecting the latest improvements in agriculture, and that he never gets his walking papers to the land of poverty.

COTTON BATTING, spread very thin over young plants, will shield them from depredations.

EDITORS' TABLE.

NORTH CAROLINA.—The Legislature of this State has lately made provision for the appointment of a State Agricultural Chemist, and such assistance as may be necessary to carry out the design of his appointment. His duty is to visit the various counties of the State, make analyses of soils, deliver lectures upon the agricultural resources of the State &c., &c. This is a step forward, and is just what we think, and have said, South Carolina ought to do. The States of Alabama and Mississippi, we believe, are doing something in the same way.

BACK NUMBERS.—To many inquiries we answer that we have on hand some hundreds of all the numbers of the second volume, and should be pleased to send to new subscribers or old ones that have failed to receive theirs through the fault of the mail. Our subscription list increases gradually, but the margin left on our books for new names is yet very large, or perhaps we should say, we have many blank pages. We return thanks to friends who have done all that could be asked to increase the circulation of the Farmer and Planter. There is, however, further need of the kind offices of supporters to the paper. Some districts in this State make a very creditable and handsome display on our list, while others, strange to say, are almost unknown. The same is true also of the counties of North Carolina, Georgia, Alabama, Mississippi, Texas and Florida.

ARREARAGES.—There are some hundreds of subscribers to the second volume of the Farmer & Planter, and a few to the first, who have neglected to remit the money for the paper. We hope such will see the propriety of complying with the published terms of subscription, which are always to be found on the first page of each issue. This is the fifth month!

ADVERTISEMENTS.—We will devote a little space in our columns to such advertisements as are connected with the interests of the agriculturist. One dollar per square.

STRAWBERRIES.—Just after our last paper went to press, we received from Mrs. A. C. CAMPBELL an acceptable compliment of strawberries, very large in size, and delicious to the taste. If it was as much pleasure to give as receive, and we doubt it not, great was the satisfaction of Mrs. C. We return thanks.

FAVOUR.—The sample of the *Iowa Pea* has been received. We should be pleased with a further account of it. Will R. I. G. accept our thanks for his many kind offices as well as the Pea? Request attended to.

CORRESPONDENCE.—For six or eight months original communications have occupied much the largest share of our pages. Some numbers have been almost exclusively made up of matter from the pens of men practically engaged in Southern Agriculture. This is as it should be. Communications have not yet so crowded upon us that we have not received them with gratification. We bespeak an unwearied continuance of the services of those, who have been writing for our columns, and invite others—all—to enrol themselves upon the list of patriotic service. We

should be very glad to hear from *the many*—those that are making experiments in farming for their own satisfaction. To such, say we, take the trouble of writing out your daily notes, and let us have them for the benefit of others. Throw yourselves into the balance and give your weight to the advancement of the art of tilling the soil.

THE SOUTHERN CENTRAL AGRICULTURAL ASSOCIATION OF GEORGIA, will be held at Macon during the week commencing with the 27th October, next.

GENERAL PLAN OF OPERATIONS ON A PLANTATION.

MY DEAR SIR:—I am at quite a loss to decide how to answer the letter which you did me the honor to address me in relation to the “management and culture of the cotton crop.” To give the information, you desire, in the form of instructions, I fear would not answer the purpose.

The proper fulfilment of instructions, however general or minute, depends so much upon the skill and judgment of the agent as to render these oftentimes an unsafe reliance. The character of the soil cultivated, the nature of the plant itself, and the elements have all so much to do with the growing of cotton, that in my absence from the plantation I would only leave with my overseer, instructions very general in their character, and even these liable to be departed from by a variety of circumstances that cannot be anticipated. On reflection, I have concluded to furnish you somewhat in detail with a statement of my general plan of operations on a plantation. You will of course bear in mind the nature of the soil in my section, the neat culture of which, has attracted your attention. It is a light and generous soil with, I think, just the proper mixture of sand and clay, easy of cultivation, and when properly cultivated, in ordinary seasons, tolerably productive. I will suppose the plantation to consist of 30 operatives, and that we take possession on the 1st. of January. For such a force there should be 12 good mules, (I greatly prefer them to horses.) I would plant 270 acres of cotton, and 150 acres of corn and 6 or 8 in potatoes. The cotton land should be listed, and bedded or drawn up with the hoe. The rows should be laid off very deep in the furrow, $3\frac{1}{2}$ feet apart, with a shovel plow. The old corn or cotton stalks, or weeds, as the case may be, should be gathered and laid in this furrow. The surface of the soil should then be drawn with the hoe to the furrow, filling it up and covering the materials deposited. The task at this work is a half

acre to each hand. The next step is to do what we call *lapping* this list, that is, to cover it with the plough by running a furrow on each side. A good mule will lap 4 acres with ease. After finishing this work, I start back to making cotton beds, running three furrows between the rows and drawing up the dirt with the hoe, the task here is one acre and a quarter. This completes the preparation of the land for cotton.

While the above work is in progress, there will be time to haul out your manure and prepare your land for corn.—Unless prevented by rain, my mules are never idle from the start to the close of the crop. I plant corn $3\frac{1}{2}$ feet one way by 5 the other. This year, for the first time, I have reduced the distance the wider way to $4\frac{1}{2}$, and I am inclined to think it is the true distance. $3\frac{1}{2}$ feet is the distance for cotton, and, as I alternate my crops, I am sayed, so far as the difference in the amount of each planted will allow, the trouble of laying off anew my cotton rows. I ridge up my corn land the narrow way; some of my neighbors prefer the wide way, I do not think it very material which is adopted so you plow deep enough. Just before I plant corn I cross this ridge running as deep a furrow as possible. Where I use cotton seed as a manure for corn, I apply 40 bushels to the acre. Of stable manure there will be required at least a full heaped wagon load, and of cow-pen or barn-yard manure, there should be used three loads to the acre. In each case, I put the manure at the bottom of the cross furrow, slightly separating it so that the corn may rest on the ground and then cover with the hoe. My time of planting corn is from the 1st. to the 10th. of March, the earlier day being preferable if the ground has been put in readiness.

As soon as I am through planting corn I prepare my potato ground and plant about the last of March. If the weather has been favorable and your hands have kept up, you will have done all the above work and also found time to litter well your stables and barn-yard with pine straw or leaves. I prefer the pine straw when it is as readily obtained; it has more substance than the oak leaf and is a better absorbent. This is a thing I never neglect. Whenever I am broken off from work by rain, I haul straw, and do this even in fair weather if my stables and yards require it.

From the 1st. to the 10th. of April, cotton should be planted, the earlier the

better. Occasionally frost at the time of the full moon in April may injure the early planted cotton; but in a series of years, he who plants on the 1st. will do better than another who postpones it until the 10th. The process of planting cotton with us is somewhat peculiar to our neighborhood. Over the cotton beds, made up as already directed, a drag is passed, which breaks the crust and flattens the top of the bed. For the force supposed, two drags drawn by two good walking mules will be sufficient.—As it is important to deposite the seed in moist soil, the drags should barely keep out of the way of the sowers. Instead of chopping on the bed with the hoe, we use what is called the dibble. This is a piece of ordinary scantling about 4 inches long, tapered in such a manner that its lower end, which is designed to indent the bed, shall be one inch thick and four inches wide. At the other end a hole is bored, into which a handle, about four feet long, is driven, and in front a peg is inserted with sufficient inclination for its point to touch the surface of the bed the instant the indentation is made with the tapered end of the scantling. The object of the peg is to mark the intervals at which the cotton should be planted.—With us this is from 10 to 12 inches, and the depth of the indentation about 1 inch. The advantages of the dibble over the chopping process are these: your cotton will be planted at a regular distance and at a more uniform depth, it will all come up at once and you will require less seed. This latter is not an unimportant consideration, as there is no manuro equal to cotton seed for corn. In using the dibble, three hands are required to a row, one for the dibble, one to drop the seed, and one to cover with the back of the hoe.

As soon as you have finished planting cotton, the corn should be ploughed, moulded and thinned, leaving a single stalk in a hill. The bull tongue plow should be run very near the corn and very deep. The middle should next be ploughed out with the shovel plow as deep as possible. Young corn can not be ploughed too deep. This first ploughing of the corn should be the wide way so as not to interfere with the manure.

If there has been sufficient moisture in the ground, by the time you have finished the first working of the corn, the cotton will be up to a stand and ready for work. The first step here, is to shave down closely with the hoe, cutting off the

entire crust between the bunches of cotton and from the sides of the beds. This is a most important operation, and if it is well done, will lighten your future labor very much. My experience of the importance of this first step in the management of the cotton crop, viz: the shaving of it down with the hoe, has been so unvarying, that I cannot urge it too strongly. Whenever I have neglected to do this, or have had it imperfectly done, the grass has invariably gotten so strong a foot-hold as to produce, in the struggle to get rid of it, a broken stand of cotton, and it is with cotton as it is with corn—without the requisite number of stalks to the acre, you cannot gather a full crop.

After the work of *shaving down* has progressed for a few days, the plows should be started behind to throw a furrow on both sides of the bed *from* the cotton. While you are thus shaving the cotton, your plows will be able, not only to accomplish this work, but also to go over your corn the second time, ploughing it the narrow way and running the first furrow a little off from the corn so as not to disturb the manure.

The potato crop should receive at this time, precisely the same kind of work as the cotton. The task at *shaving down* is one acre to the hand, and at lapping, four acres to the plow.

The next step is to turn immediately back where you started and do what we call *bursting out* and *hauling up*, that is, ploughing out the middles of the cotton row with the shovel plow, running two and sometimes three furrows in a row, and drawing the earth to the cotton with the hoe in such a manner that the dirt shall fully embrace and support the plant. The task here is an acre and a quarter to the hand.

The process of hauling up should be continued until about the 25th or last of May, when I would go to my corn with all hands. At this time the corn should be ploughed the wide way, but not so deep or so close as at the previous ploughing, and bedded with the hoe. The task at this work is an acre and a half. As soon as this has been completed, I return to my cotton and finish the operation of hauling up. After bedding the corn as above described, on the first rain, peas should be planted. These I plant with the hoe, chopping between each hill of the corn the narrow way, and depositing 12 or 15 seeds in a chop and covering with the hoe.

When this is done, should rain interrupt the process of hauling up the cotton, I thin out that portion which has already been bedded up. As a general remark I would here observe that land should never

be worked when too wet, or, in other words, wet dirt should never be drawn to corn or cotton. When "in a tight place," as most of us have been during this season, you may shave down and lap the cotton, but under no circumstances would I draw very wet dirt either to my corn or cotton. At such time any planter may employ his hands more profitably in hauling litter into the stables and barn-yard.

Having hauled up the cotton, the process of thinning should be begun, or if already begun, should be completed. This, of an ordinary year, you will be able to accomplish by the middle of June. It is, I think, hazardous to thin cotton too early, especially on light lands, as the plant, except on very rich soil, is slow getting off, and when young, is subject to many casualties, such as cold winds, lice, sore shins &c. &c.—The cotton should be pulled out by the hand, leaving a single stalk in a place. The task with me is two acres; though most of my neighbors give two acres and a half. I prefer the lighter task as no little depends on careful thinning. I will confess, however, that I have experienced great difficulty in getting my hands always to draw the inferior plants and leave the best ones.

After I have thinned over the crop, then I begin again the process of hauling up. At this time I run the scraper plow three times in a row, making one furrow on each side of the bed and the third in the middle, and then draw the dirt to the cotton with the hoe. This scraper is, I believe, in pretty general use throughout the state. It is known in some sections as the "buzzard wing"—in others as the "sweep."

It is proper here to observe, that if, when I am ready to haul up my cotton the second time, I find much grass in it, owing either to too much rain, or too bad work, then, instead of hauling up, I resort to my original and favorite process of shaving down and lapping. This latter operation, as soon as the corn has been laid by, will be followed with the bursting out and hauling up process already described.

The corn, when in silk and tassel, should be lightly ploughed over with the scraper and the beds dressed over with the hoe.—This closes matters so far as the corn is concerned, and if the season has been favorable and the proper amount of manure applied, you will not fail to gather a good crop.

From the corn, I return to the cotton, and even if it has been bedded up a second time, and is clear of grass, I still continue to work it until broken off by fodder pulling. If it were possible, I would break the surface of my land after every beating rain. An open, porous condition of the soil is best during both a period of excessive rain, and a period of drought. The reason for this is plain. Such a condition of the soil during wet weather promotes the evaporation of undue moisture, and during the dry period, favors a constant absorption of moisture from the atmosphere.

Between the first and tenth of August cotton should be topped. To do this much sooner is a little dangerous, and to postpone it much later, will render it useless. In general, the true time for topping is when the plant has very nearly attained its growth and is pretty well loaded with young bolls and squares. The topping arrests

the upward flow of the sap, which would be consumed in the formation of useless wood, and throws it upon the fruit, causing it to mature more rapidly, and preventing to some extent the shedding of the cotton.

As to the "housing of the crop," I have but little to say. I gather as rapidly as possible. I have once or twice bestowed great pains in picking out my cotton free of trash; but I lost more in weight than I gained by quality. Cotton dries so rapidly in the field, and is so easily injured and beaten out by storms, that I prefer heavy pickings with a little trash, to light pickings without it.

I have now described to you my plan of operations on a plantation of the size supposed.—I may have omitted some unimportant particular, but if I have succeeded in conveying to you a clear idea of our general system of cultivation, these minor matters will be readily suggested by the very circumstances which so frequently modify them. There remains, however, two or three matters, which, though not within the scope of your enquiry, are inseparable from my idea of a well managed plantation, and on which I will venture a remark or two.

1st. Every plantation should raise its own meat and furnish its own clothing. It is very difficult to do the former, and as I have generally failed to do it, I can scarcely expect my own opinions to have much weight. Still, I feel confident that, by proper management we can raise an abundant supply at less cost than that which we incur by annual purchase from the West.—I believe it to be a sound principle in agriculture to buy nothing which we can conveniently produce. Take for example this item of bacon, which is so indispensable for the sustenance of our operations. If we raise it on our plantations, we produce it from resources always present, and by our labor. If, on the other hand, we appropriate this labor to raising cotton, and then, through the medium of money, convert this cotton into bacon, we arrive at the same result, it is true, but by an indirect and expensive route. In the former case we pay only labor for hogs. In the latter, we pay both this labor (which is required to produce the cotton), the sending it to market, its storage and insurance, the commissions upon its sale, and last of all a profit to the drover. There is another consideration. Making cotton wears out the land, while making hogs furnishes a rich manure to aid in reclaiming it. Again, in this system of raising one article to obtain the means of purchasing another which we can ourselves produce, we are subject to the fluctuations of two markets; and I believe that it is pretty generally conceded, that these fluctuations often accrue to the benefit of the trader and the speculator than the agriculturist. If, then, we would curtail our cotton and increase our corn crop, we should have the means of fattening our hogs under circumstances which would contribute to furnish a large amount of rich manure. To effect this important result, as well as to secure them from the depredations of the negroes themselves, I would keep them in small enclosures, which should be constantly supplied with leaves and pine straw from the woods.

The proper feeding and clothing of negroes is a most important matter, and I am gratified to think that our planters are generally devoting to this subject the care and attention it so justly deserves. To say nothing of the humanity of it, he who feeds and clothes his negroes properly, will, in the end, be the richer man, and in the mean time enjoy a peace of mind to which the heartless task master is an utter stranger.

2d. As to making the cloth, I can speak confidently, for, with the exception of the summer clothing which is now so cheap, I have always furnished my own cloth, and that without at all interfering with my crop. On a plantation of the size in question, ten spinning wheels kept going on rainy days, and when the breeding

women are in doors, will furnish the necessary quantity of thread, and a good active fellow will weave it easily and do full work in making the crop. To accomplish this purpose, the plantation should support fifty or sixty sheep. A fabric entirely of cotton I know from experience answers very well, but the addition of one half of the filling of wool, gives it greater durability and comfort.

3d. Raising manure. This with me is every thing. As long as our fathers had the land they continued to cut down and wear out. The old system of cultivation must be abandoned, or the present owners will have to seek better soil elsewhere. The same fatal process is now going on in the West, and in twenty years hence the occupants there will find themselves where our predecessors left us, with exhausted lands and dilapidated establishments. In the mean time, we may, by a change of system—by planting a less surface—by alternating our crops, and by a judicious application of manure, not only restore our land, but actually make it more productive than when reclaimed from the forest. This will require time and patient industry; but the result is as sure as that effect follows cause.—The amount of manure capable of being made in a year, by penning cattle, sheep, hogs, mules, and horses in well littered yards, would seem to one who has paid no attention to it, almost incredible. One of my neighbors this year has hauled over his crop upwards of 2,500 waggon loads of manure. His example is worthy of all imitation and praise. He has been at this for years. The consequence has been increased fertility of his soil and a greater product to the acre than the land ever before yielded. I am myself trying the renovating process on a plantation which had been exhausted and abandoned by its former owner, and I have had every encouragement to persevere. Our planters generally are two impatient and too greedy. They would sow to-day and reap to-morrow. They forget that their land is their capital and their crops their income, and that to keep up the latter, they must preserve the former unimpaired. The extravagant and too often deceptive results of the West should cease to make us discontented with the better lot that is ours, if we would only do our part. With us cotton is comparatively exempt from the many casualties that render its production in the West so precarious. Our climate is more healthful, our soil is a generous one, and capable of being improved to almost any extent.

With sentiments of the highest esteem, your obedient servant,

J. H. ADAMS.

Hon. Angus Patterson, {
Barnwell C. H. }

Surface and Sub-soil Plowing.

Perhaps for several years no feature in agriculture has occupied more of the attention of the planter than deep-plowing, and the utility of the operation is in this region now undergoing a severe trial by drought. There is at this moment before our eyes a striking proof of the beneficial effects of deep plowing and a thorough pulverization of the land before planting.—Were we without a satisfactory experience in this matter and yet unconvinced, there is at least enough in the prospect extended before us to make us halt, reflect and enquire. The ease to which we allude is with land originally good and having a red clayey subsoil, but so much worn and so reduced by miserable management as to fail to pay labor by its product, and of course valueless for cultivation. During last winter it was plowed with the Jack plow, and followed in part by Broyles' subsoil, the plow of plows

(subsoil) for the South, and instrument of instruments among agriculturists. About two inches of the subsoil was broken up—enough for a single operation. The work was honestly and faithfully done as if in the hope of a reward. About the middle of March it was planted in corn, and what product will be realized, autumn alone can with certainty answer. A three weeks drought has prevailed and yet continues. The thermometer has averaged for the last twelve days 87° Fah., at 2, p. m., in a long passage of the dwelling house somewhat shaded by trees. Corn in general is wilting and dying to a considerable extent. The crop looks very unpromising. But with this, that we have under especial observation, it is otherwise. The soil is in fine tilth and the plant looks fresh and growing, and seems not to be suffering in the least from want of rain. It has in prospect greatly the advantage of other corn standing upon land capable with the same culture of producing at least four bushel to one per acre. Such are the effects of good surface and sub-soil plowing in drought, and we do not doubt the benefits will be equally apparent in the event of excessive rains.—This practice is among the most substantial improvements in modern agriculture. It is altogether so rational, and so entirely philosophical, that it seems strange that it has been, and is yet so much neglected. In general terms as the husbandman increases the depth of his soil, he increases its value and productiveness.

Though some of us have prejudices against this "new fangled doctrine" of plowing, we all endorse it practically in the cultivation of our gardens, and the nearer we can bring our lands to a garden soil, the more complete will be our success in tillage. The advantages, let it not be forgotten, are not the same to all soils, but vary with the nature and condition of both the surface and subsoil. If large quantities of inert matter are turned up and mixed with the surface soil at one time, an immediate injury will be done to the crop. The depth of two inches is quite enough in most cases for a single operation.—The office of the subsoil plow is to break or loosen the subsoil, and leave it to be mingled with the upper soil afterwards by a different instrument. By the action of the atmosphere, rains and other agents, admitted by this plow, the substrata are wakened, so to speak, into life and fecundity from a state of sterility, and the ingredients so changed as to become from worthless matter, the very life-giving principle of vegetation. All soils are formed from the disintegration of rocks, and this disintegration is facilitated by the exposure made by deep and subsoil plowing. Not only is food converted into a form in which it can be used by plants but it is made accessible to them. The earth is loosened and easily penetrated by the roots. The fibrils of corn under favorable circumstances have been found at the depth of five feet from the surface. Here, then, is new foraging ground for the rangers. Here they can extend and open their innumerable mouths and drink in new food which shall make them grow and mature with a rich harvest.

Decay of Peach Trees.—A singular fact and one worthy of being recorded, was mentioned to us, a few days since, by Mr. A. Duke, of Albemarle. He stated, that whilst on a visit to a neighbor, his attention was called to a large orchard, every tree in which, had been totally destroyed by the ravages of the worm, with the exception of three; and these three were probably the most thrifty and flourishing peach trees he ever saw. The only cause of their superiority known to his host, was an experiment made in consequence of observing that parts of worm eaten timber into which nails had been driven, were generally sound.—When his trees were about a year old, he had selected three of them and driven a ten-penny nail through the body, as near the ground as possible; whilst the balance of the orchard had gradually failed and finally yielded entirely to the ravages of the worms, these three trees, selected at random, treated precisely in the same manner, with the exception of the nailing, had always been vigorous and healthy, furnishing him, at that very period, with the greatest profusion of the most luscious fruit. It is supposed that the salt of iron, afforded by the nail, is offensive to the worm, whilst it is harmless, or perhaps beneficial to the tree.—*Southern Planter.*

Watering Plants.—Many plants standing in the open ground are injured by injudicious watering. Never begin to water until you are prepared to give daily waterings, until a good rain comes. We have found a small portion of water upon vines, during a very hot dry spell, an injury. In watering vines, the water should be applied as wide as the influence of the roots extend. Any one with a small garden may save most of his choice plants by watering. Give water morning and evening. Egg plants may be brought forward now by water; they bear a great degree of heat, but a plenty of water will induce early bearing. Melons and cucumbers may be watered, but remember the roots extend as far as the vines, and give them water accordingly. Herbaceous plants should be watered, stem, leaf, and all; trailing vines, such as verbenas, should have copious waterings, or the sun and drought will kill them out. In as dry a time as the present, it is best not to put any fertilizers in the water, as the plants are hardly able to digest any thing extra; the most they want is moisture, and if they can be kept alive until a good rain, you may hang up the watering pot.—*Ex.*

A hand used in measuring the height of horses, is 4 inches.

CONTENTS OF THIS NUMBER.

Pencillings by a Planter, No 3 (concluded)	"	65
Soap Suds	"	67
To make Tomato Figs	"	67
Looking for a Better Country	"	67
Review of the April Number	"	68
Joint or Bermuda Grass	"	69
Decay of Peach Trees	"	73

